

Montana Department of Transportation
Research Program
August 2004

ANNUAL EXPERIMENTAL EVALUATION REPORT

Thin-Whitetopping Bonded Composite

Location: Kalispell, Montana – Flathead County

Project No.: STPP 1-2 (93)121, East Idaho St.

FHWA No. MT 00-02

Description: Fifth year analysis of experimental construction project consisting of milling approximately 130mm of Asphalt Cement (AC) and placement of 130mm Portland Cement (PCCP) onto the milled surface to create a bonded-composite pavement. Project length-0.8 kilometer (0.5 mile)

Evaluation Date: September 2005

Date Constructed: September 2000

Report Origin: Craig Abernathy
Experimental Project Manager

This was the fifth annual analysis of this project since construction in fall of 2000. This inspection consisted of a visual review to document any surface distress or deterioration of the whitetop-bonded composite.



Figure 1

Figure 1 is an overview, looking west at the whitetopping section.

The overall appearance of the whitetopping is good. Fifteen cracked panels were documented in the 2004 report. No additional cracking was observed during this evaluation. All cracks are hairline in nature with no vertical displacement or debonding of the composite panels. At

this time, there is no indication of a pattern or reasons for the randomness of the cracked panels; therefore, it is premature to attempt to ascertain a cause. It should be noted that the majority of the cracking occurs on the north half of the project (which was placed first)



Figure 2



Figure 3

between the streets of 8th Ave. EN and 6th Ave. EN. The south half of the project is exhibiting no cracking at all. Refer to the crack map at the end of this report for a general representation of cracked panel locations and the relationship of how the crack is located within the panel itself. The crack map is strictly an illustration of approximate crack locations within the project. It is not to scale.

Figures 2 & 3 are examples of the in-lane, hairline cracks. A black line has been superimposed over the images to better see the lay of the crack. It has been estimated that this project contains over 4200 sawed panels with only an approximate fifteen panels exhibiting minor cracking since construction.

Figure 4 shows the performance of the doweled PCCP patch placed during construction due to un-consolidated concrete by lack of adequate vibration (documented in the 2001 fall construction report). The black outline is the area of repair.

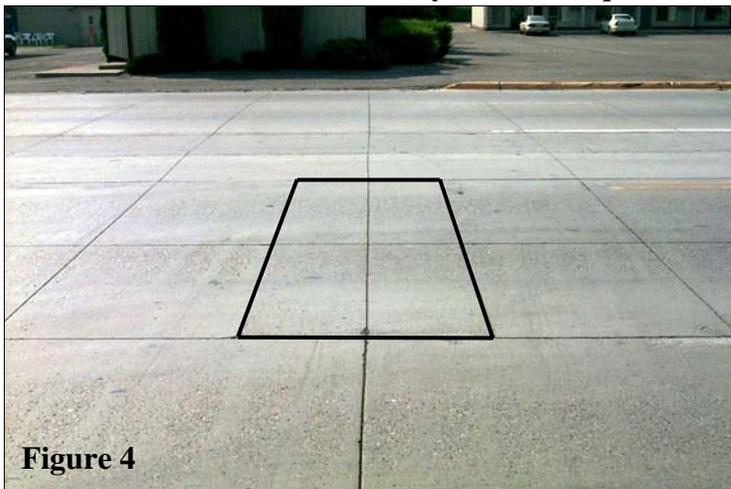


Figure 4

Visual observation of traffic moving over this section display no faulting or movement of the slab. At this time, no visual surface distress was noticed. This repair is approximately located in the center section of the westbound lanes 2 meters past the intersection of 6th Avenue EN and East Idaho St.

Figure 5 is showing the east-end transition area of the project. It is important to point this feature out due to the innovative way this approach was placed, please refer to the fall 2000 construction report for details. That report and additional information can be located on the MDT Research Internet website at: http://www.mdt.mt.gov/research/projects/kal_whitetopping.shtml. No evidence of distress to the east or west transitions was noticed during this evaluation.



The whitetopping project is rated as performing very well. Research has elected to continue formal evaluations of this project. The next inspection will be held in the fall of 2006. The following page is the representative crack map. Note that the map shows only that portion of the project that currently contains cracked panels. As noted earlier, there were no noticeable additional cracking since 2003.

Thin-Whitetopping Overlay Composite - STPP 1-2(93) East Idaho St., Kalispell Montana
Representative Project Crack Map - Approximate Location

Note: Crack map only shows portion of project which contains distress information

